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ABSTRACT

Little if any attempt has been made to speak to the issue of how geographic education and environmental education can be combined within the framework of geography. One of the major problems has been that people fail to see the relevance of abstract environmental concepts to their own lives and life styles. Studies reflect both a serious lack of knowledge and a failure to associate what one knows about the environment with behaviors appropriate with this knowledge. The two elements of the problem, the amount of knowledge and its relevance, can be met by designing programs which get people out into their environment, doing some sort of investigative activity to help them understand both the environmental principles involved, the quality of their own local environment, and their interaction with it. Support for this approach comes from geographers' traditional approach to their subject, as well as from recent developments in educational psychology. One instance of how geography and environmental education have been blended together is a new environmental studies project for the Canadian YMCA. The wide selection of activities offered serves as an example of how field experiences meaningfully blend geographic and environmental concepts for a variety of age and interest levels. The experience of this project indicates that geographers are in danger of passing up an opportunity to capitalize on the widespread interest and concern about the environment. (Author/KSM)

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GEOGRAPHY AND ENVIRONMENTAL EDUCATION--

WHY AREN'T WE INVOLVED?

A Paper Presented to
The National Council for Geographic Education
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In an age when our students are demanding topical "with it" courses, greater attention to current issues, and some accountability for the relevance of what they study, it is amazing, if not appalling, that those concerned with geographic education have not devoted more time and attention to capitalizing on an area which ought to be of interest to them. In addition to this legitimate concern for a subject which rightly falls within the geographer's sphere of expertise, it is surprising that at a time when the health of Geography in the schools is of some concern, if not actually on the critical list, that geographers have not leaped at the chance to combine their expertise with a popular and worthwhile endeavour. We have witnessed the decline of geographic content in the elementary schools, its disappearance into the morass of the social studies and earth sciences in the secondary schools and a somewhat feeble battle currently being waged in the United States at the university level. For a subject which has so much to offer to so many people in so many walks of life and which relates directly to almost every aspect of human endeavour, it is almost impossible to account for the lack of attention geographers have paid to a growing and important discipline.

Undoubtedly, there will be those who will criticise the tone of this paper, claiming that geographers have attended to environmental education. It can be argued that this may or may not be the case and that even if they have, their collective impact has been minimal. Still, the fact remains that the concerns of the N.C.G.E. have not been met in that little if any attempt has been made to speak to the issue of how geographic education and environmental education can be combined within the framework of geography. Those who have looked at the question of how and what to teach with regard to environmental education have not as yet come up with any definite answers.

There is considerable confusion as to what the appropriate content of any course in environmental education ought to be and there are no clear directions at this time for any given age group or course emphasis. Nevertheless, educational psychology does offer a number of fruitful directions which we ought to be developing if we hope to design effective courses.

One of the major problems to date has been that people in general, and children in particular, fail to see the relevance of abstract environmental concepts to their own lives and life styles. Strange as this may seem with environmental concerns very much in the news and public consciousness, it is, nevertheless, true. For example, Williams and Edmisten (1965) in surveying more than 2,000 people in Nashville, Tennessee (which suffers severe air pollution problems) found that only 3% felt that measures to reduce the pollution should be enacted. Similarly, Vaughn and Harlow (1965) surveying marina owners along the badly polluted Detroit River were told by a majority of the owners that their decline of business had nothing to do with the quality of the water, but was due to inclement weather. A similar finding was reported by Towler and Swan (1972) resulting from a study of approximately 500 elementary and secondary school children. Despite the topicality of the issues, it was discovered that school age subjects know very little about the environment and even when they possess some knowledge concerning it, they do not act in accordance with that knowledge. For example, Towler and Swan found that the majority of elementary and junior high school subjects did not know what happened to their garbage after it was collected, how smoke affected them, where their water came from or even what happened to their waste water after it went down the drain. Older subjects were very little better in their acquisition of knowledge and indicated that their lifestyles were often completely at variance with the knowledge they did possess. Most

of these subjects still preferred to use throw-away containers, use private automobiles instead of public transportation, and to engage in other similar unecological activities when given a choice between these and ecologically sound practices. These attitudes and the resultant actions seem to reflect both a serious lack of knowledge and a failure to associate what little one knows about the environment with behaviours appropriate with this knowledge. Why is this the case? We suggest that the answer lies in the fact that people fail to understand and appreciate the relevance of their own actions within the environment because their knowledge base has been developed from a series of abstract, seemingly unrelated environmental concepts which are not only new and laden with 20th century technological terms, but which have been presented in terms of large scale environmental problems which often lie far beyond the experience of most individuals. In other words, even after one is able to comprehend the effect of SO_2 in the deterioration of building materials, it is difficult to experience it in a personal way and entirely possible that one might never notice an example of it. Put another way, even if one understands the chemistry involved in the eutrophication of Lake Michigan, your residence in Salt Lake City can make the problem seem like light years away in terms of interest and concern.

In order to rectify this situation, we need to turn our attention to the question of how people learn and how attitudinal changes can be effected. If we cast the problem into two elements, amount of knowledge and its relevance, both can be solved by directing our attention to an old Chinese maxim and some new psychological theories. The maxim goes like this:

> I hear and I forget,
> I see and I remember,
> I do and I understand.

In other words, we must design programs which get people out into the environment--<u>their</u> environment--doing some sort of investigative activity

which will help them understand both the environmental principles involved and at the same time, the quality of their own local environment and how they interact with it. Instead of lecturing about air pollution or having students read about it, get them out into their air and help them measure the degree of pollution that is there and to measure the amount of pollution their own activities add to it. This approach is completely in keeping with the way in which geographers have traditionally and most successfully approached their subject. Dudley Stamp used to say that the only way to learn geography was through the soles of your boots; so it is with environmental education. Yet this seems to be viewed as a new or revolutionary idea. Surely it is one that geographers, of all people, should be familiar with, receptive to and anxious to apply. Here again, one wonders why it is that geographers who claim a long-standing interest in the environment and have been teaching according to this principle for decades have failed to put the two things together.

Harder, more refined support for this approach also comes from recent developments in educational psychology, especially Piagetian theories of learning which indicate that we progress through a sequence of stages in our ability to think. At one stage, we are capable of thinking only about that which is actually before us and during this stage or concrete level, the removal of the concrete object prevents us from satisfactorily thinking about it. Later, when we can use abstract terms or symbols for the objects, we can think about them without having them physically present. Finally, having progressed through these stages, we arrive at the level of formal operations where it is possible to not only think in abstract terms, but also to engage in hypothetical (what if . . .) types of thought. Now while it is true that these stages and levels of thought development have been closely associated with children's thinking, it is also true that all of us pass through these stages and that some adults

may never reach full competence with some of the higher order levels. In other words, Piagetian theory supports the contention that one must learn through active manipulation of concrete factors before one can procede to more advanced levels of abstract hypothetical thinking. Yet do we not approach both geography and environmental education from exactly the opposite direction all too often? Are we not too prone to talk abstractly about our world, our place in it, and to supplement this infrequently with vicarious experiences through films and pictures instead of real experiences within that world?

Perhaps an example of how geography and environmental education can and have been blended together to form an exciting and totally relevant learning situation would be in order. A year ago, the authors were invited to direct a new environmental studies project for the Canadian YMCA at their Geneva Park Leadership and Training Center in Ontario. The site was a 150 acre peninsula on a lake and the prospective audience was to be conference delegates and their families, vacation guests who would reside in motel-like accommodations and families staying in cottages within the park. Historically, only a fraction of the site had been used for any program and the remainder was a geographically varied site consisting of meadows, a swamp, transitional forest belts and a hardwood bush. This was in addition to interesting Canadian Shield rock formations, the lakeshore, abundant flora and fauna and the facilities which were required for the services provided for up to 400 people living on the site. Hence there were water treatment plants, sewage treatment facilities and all the accompanying problems associated with a community of this size.

Our charge was to develop an environmental program which would get people out into the environment, teach them something about what they were experiencing, help them to understand their relationship to nature and above

all, to develop a "back home" applicability aspect relating what they had learned at Geneva Park to their own local situation. This seemed like a golden opportunity to apply our theories and we proceeded to develop activities for all age groups which required them to get out into the environment and to do something of an investigative nature while they were there. While there were a wide selection of such activities for ages ranging from toddlers to octogenarians, typical projects involved such things as: a study of the local water table; the sources of the park's drinking water; testing the quality of that water before and after treatment; tracing the flow of waste water to the sewage treatment area; investigating the effect of pollution on the lake; testing the pH of the soils in various parts of the site; computing the daily water demand of the park residents; determining the source, kind, amount, and subsequent disposal of solid wastes; examining the patterns of land use within the park; going on self-guided nature trails in which participants engaged in contests related to the identification of not only natural landforms, but examples of man's interference with the site; guided man-vs-the-environment walks in which participants investigated the relationship of man to this environment and attempted to identify the ways in which man's activities had to be adapted to the environment, where this had failed and what were the results. These activities, coupled with a nature center, evening outdoor lectures, visits from Pollution Probe, The Mother Earth Theatre, film nights, jogging trails through the forested area, orienteering contests and the like, served to focus the attention of the park's thousands of visitors over the summer on the environment in a manner which they found to be interesting, relevant and applicable to both their vacation period in the out of doors and also to their actions in their local community back home.

The program served as an example of how a "hands on" in the field set of experiences could meaningfully blend geographic and environmental concepts for a variety of age and interest levels. The enthusiasm generated by the project has resulted in plans for its refinement and application to other YMCA outdoor sites across Canada, projections for a teacher education component and the development of materials and curricula for schools and community service organizations. There is no reason to believe that such an approach could not be utilized by any educational organization which would take the effort to get the learner out of the classroom, into the environment and provide him with an activity which would help him qualitatively and quantitatively measure the quality of his environment and man's effect upon it. Our experience would indicate that geographers are in danger of passing up a wonderful opportunity to capitalize on the widespread interest and concern currently being shown about our world. Geographer's supposedly have the experience and the knowledge to make this approach work and be an exciting, relevant part of the educational process. Whether they will permit the study of geography to decline or use this method to give it a shot in the arm remains to be seen.

Further information about this project may be obtained from Dr. John Towler, Renison College, Waterloo, Ontario, Canada.

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